

Regional Wastewater Services Plan

Semi-annual Report

June 2003



King County

Department of
Natural Resources and Parks

Wastewater Treatment Division

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Visit the RWSP Web site at <http://dnr.metrokc.gov/wtd/rwsp/rwsp.htm>

Introduction

This report describes progress made in implementing the Regional Wastewater Services Plan for the period January through June 2003. The report is organized according to the six major elements of the RWSP: treatment, conveyance, infiltration and inflow, combined sewer overflows, biosolids, and water reuse. The activities under each element are summarized along with a schedule for the remainder of this year. In addition, the final section of the report—RWSP Project Information—provides specific budget, schedule, milestones, labor, and contract status for active RWSP capital projects through May 2003.

Background

In December 1999, the King County Council adopted Ordinance 13680, which comprehensively updated King County's Comprehensive Water Pollution Abatement plan. This update, termed the Regional Wastewater Services Plan, is a 30-year capital improvement program designed to provide wastewater capacity for this region's rapidly growing population and protect its aquatic resources.

Ordinance 13680 requires the King County Executive to report in June and December to the King County Council and King County Regional Water Quality Committee about progress in siting and constructing new wastewater facilities. This semi-annual report, in conjunction with the December annual report, satisfies this requirement.

Accomplishments

A significant amount of work was completed on the Regional Wastewater Services Plan in the first half of 2003. The highlights of these accomplishments are summarized below.

Treatment Plant Siting

A primary focus of the Brightwater siting program was responding to the comments received on the Draft EIS and developing the Final EIS. The King County Department of Natural Resources and Parks (DNRP) and its consultants are responding to more than 5,000 specific comments from approximately 550 individuals, organizations and agencies. The Final EIS, expected in November 2003, will address each comment. In addition, DNRP began predesign on the treatment plant and conveyance facilities for each Brightwater alternative as well as conceptual architectural design and site layout for the treatment plants.

Conveyance

Regional conveyance planning continued in conjunction with the Brightwater siting process and planning began on five new basins: North Lake Sammamish, North Lake Washington, South Lake Washington, Southeast Lake Washington, and Northwest Lake Washington. Planning will be completed for all basins by the end of 2003.

Infiltration and Inflow

The I/I program made considerable progress on the I/I pilot projects since January. The program completed the engineering and design specifications for twelve I/I pilot rehabilitation projects, monitored flow in the pilot basins plus ten control basins, and finished the procurement process for the pilot projects. The program also calibrated the I/I model for 146 basins throughout the King County service area and set up the hydraulic model to simulate 20-year flow volumes throughout the entire conveyance system.

Combined Sewer Overflows

The CSO program continued its work to remediate contaminated sediments in the nearshore area adjacent to the Denny Way CSO. The program also issued a request for proposals to seek consultant support for developing the CSO program review—a precursor to CSO Control Plan Update due in 2005. The selection process is underway with notice to proceed expected by late June.

Biosolids

The biosolids program continued to recycle 100 percent of biosolids produced at the regional treatment plants.

Water Reuse and Conservation

A number of high-use King County facilities such as parks, pools, public health buildings, district courts, and sheriff precincts are being audited and retrofitted with water conserving fixtures, including toilets, urinals, faucets, faucet aerators, and timed showers. The fixtures are projected to save over 4,000,000 gallons per year and will pay for themselves in less than 2 years. Many of these facilities offer a good venue for signage providing information about water conservation.

Treatment Improvements

The Regional Wastewater Services Plan identified the need for a 36 million gallon per day (mgd) treatment plant in the north service area by the year 2010. Since January 2000, King County's DNRP has conducted a multi-year process to find a site for the new treatment plant and its associated conveyance facilities and marine outfall. Collectively these facilities are termed Brightwater. This section begins with a summary of the process to site the Brightwater facilities and then describes the accomplishments since January.

Brightwater Siting Process – Phase I & II

King County began identifying sites for the Brightwater facilities in January 2000 using a three-phase approach. The goal of Phase I was to use King County Council-adopted policy siting criteria to identify a small group of potential sites for the treatment plant from a pool of over 100 potential sites. The County completed Phase I in May 2001, having identified six candidate sites and eight candidate outfall zones in Puget Sound. On May 14, 2001, the King County Council accepted the candidate sites and outfall zones for further evaluation, as well as a set of refined policy criteria for use in narrowing the number of sites under Phase II.

Phase II of the Brightwater siting process took place in the summer and fall of 2001 and considered complete "candidate systems" for each of the six candidate sites. Each candidate system included a conceptual treatment plant layout and two construction options for the conveyance pipes serving the plant. One construction option involved burying the pipes at relatively shallow depths using surface trenching, and the other option involved tunneling the pipes deep underground. Each candidate system also included two options for where the marine outfall would be located. Developing these six candidate systems allowed DNRP to compare them consistently and fairly, especially related to cost and potential impacts.

On September 17, 2001, the King County Executive, in consultation with the Snohomish County Executive, transmitted a recommendation to the King County Council to advance two candidate systems to Phase III for environmental review under the State Environmental Policy Act (SEPA). One is the **Unocal** system in Edmonds and the other is the **Route 9** system north of Woodinville (Figure 1). On December 10, 2001, the Council approved these systems for advancement to Phase III.

Figure 1
Treatment Plant Sites Evaluated in the Draft EIS



Brightwater Siting Process – Phase III

In January 2002 King County DNRP began Phase III of the siting process by developing the scope for the Brightwater Draft Environmental Impact Statement (Draft EIS). The scope identified alternatives for the Brightwater project, including the development of several conveyance corridors for each treatment plant site and the possible location of pump stations and tunnel portals along those corridors. These alternatives were described in a scoping notice mailed to approximately 60,000 people in May 2002.¹ Recipients included regulatory agencies, jurisdictions, tribes, environmental groups, and households and businesses located in or near the conveyance corridors, portal areas, or pump station areas. The comments from the scoping notice helped to focus the environmental analysis and the content of the Draft EIS.

The County then refined the conveyance corridors for each of these alternatives so that they met engineering objectives and minimized environmental and community impacts. In the process, DNRP considered engineering, environmental, community, and land-related factors. For example, engineering considerations included the volume of wastewater to be conveyed, the need to connect to existing pipelines and conveyance facilities, the total length of pipelines, the number and depth of tunnel portals used for pipeline construction, and the number of pump stations that would be required. Environmental considerations included the number of wetlands and streams that would be affected and the impact that construction would have on roadways and traffic circulation. To minimize impacts on the community, the county tried to identify corridors that would maximize the use of existing rights-of-way and minimize the need to purchase private property.

1. The scoping notice can be viewed on-line at <http://dnr.metrokc.gov/wtd/brightwater/library.htm>

Four alternatives were identified for evaluation in the Draft EIS as a result of the scoping process.²

1. A treatment plant at the Route 9 site with conveyance pipelines in deep tunnels primarily under 195th and 205th Streets and a marine outfall off Point Wells to Outfall Zone 7S (Preferred Alternative).
2. A treatment plant at the Route 9 site with conveyance pipelines in deep tunnels primarily under 228th Street SE and a marine outfall off Point Wells to Outfall Zone 7S.
3. A treatment plant at the Unocal site with an influent pipeline to carry untreated wastewater from King County's existing pipelines near SR-405 in Bothell through Kenmore and Lake Forest Park to Edmonds. A marine outfall would be located off Pt. Edwards in Outfall Zone 6.
4. A No Action alternative. Under this alternative, King County would not implement the part of the Regional Wastewater Services Plan (RWSP) that calls for construction of a third wastewater treatment plant. However, King County would continue to implement other programs and projects identified in the Regional Wastewater Services Plan.

The King County Executive identified the first alternative as his preferred alternative because of the relative efficiencies and flexibility it would provide. For example, the Route 9 site is twice the size of the Unocal site, making it easier to engineer and build the plant, and it would provide more room for a landscaped buffer. However, being the Executive's Preferred Alternative does not mean that it will ultimately be selected. The final decision will be based on several factors, including comments from the public, government agencies, tribal governments, and elected officials; the findings of the Final EIS; regional policies; and cost. The King County Executive will make a final decision in December 2003.

Developing the Final EIS

One important effort by DNRP during the first half of 2003 has been the ongoing development of the Brightwater Final EIS. The purpose of the Final EIS is to revise and update the Draft EIS by responding to the public comments received on the Draft EIS. In all, more than 5,000 specific comments from approximately 550 individuals, organizations and agencies were submitted during the public comment period for the Draft EIS (November 6, 2002 to January 21, 2003). To respond to these comments and provide additional information where requested, DNRP and its consultants are conducting a number of detailed technical analyses on a range of topics. For example, the studies will include more detailed information about potential adverse impacts and mitigation measures designed to avoid or minimize

2. The alternatives were summarized in the December 2003 RWSP Annual Report (http://dnr.metrokc.gov/wtd/rwsp/documents/Dec02_final1.pdf) and described in detail in the Draft EIS (<http://dnr.metrokc.gov/wtd/brightwater/env/deis/chapters/Ch-03.pdf>).

impacts to regional aquifers, impacts of tunnel construction and operations, the air quality and odor impacts at the treatment plant sites, and the geotechnical feasibility of tunnel construction. This effort will continue through the summer and fall of 2003, with the expected release the Final EIS in November.

Public Involvement

King County DNRP continues to place a high priority on involving stakeholders and members of the public in the Brightwater siting process. Many new activities were initiated in 2003, such as the community task forces and community design workshops, in addition to the continuation of ongoing activities such as quarterly newsletters, speakers' bureau, and the Web site. These and other activities are summarized below.

Public Meetings, Briefings, and Speakers' Bureau: More than 30 public meetings and briefings were held between January and May 2003, including:

- Five public and community group meetings
- Three realtor briefings
- Several educator group meetings
- Four regulator briefings
- Thirteen jurisdictional/county government briefings

Through the speakers' bureau, Brightwater project staff are available to talk with and respond to concerns of groups or organizations at any time. The speakers' bureau has been active recently with discussion about the conveyance system, especially with recreational groups.

Community Task Forces: A Unocal site Community Task Force and a Route 9 site Community Task Force were formed as a way to involve community members who live near the treatment plant sites. The task forces have assisted in planning informational seminars and events designed to involve the public in their area and assisted in the planning of the community design workshops. The Route 9 Task Force met on April 8 and the Unocal Task Force met on April 10.

Executive Advisory Committee: In June 2000, King County Executive Ron Sims and Snohomish County Executive Bob Drewel jointly appointed regional leaders to this committee to advise the two county executives on site selection criteria and a variety of regional policy issues and concerns. In 2002 the Committee helped develop policy questions for the executives to consider during their deliberations on technological, environmental, financial, and regional considerations. The committee met for the final time on February 11, 2003.

Fairs and Festivals: Brightwater staff had a booth in the exhibitors' area of the Celebrate Woodinville community festival. This gave DNRP staff an opportunity to inform people about Brightwater and WTD's mission to protect public health and the environment. We also distributed information promoting pet adoption at King County's animal shelters.

Newsletters and Mailings: A project newsletter is distributed by mail at quarterly intervals and is available at a number of locations in the siting area. The winter and spring newsletters were each mailed to approximately 6,000 people in February and May 2003. In addition, dozens of homes and businesses in north King and south Snohomish counties received fliers as part of community outreach to announce that drill crews would be performing geotechnical borings in the area.

Brightwater Technical Seminars: Since the Brightwater Draft EIS was written, King County has been conducting new studies and analyses in a number of areas. Three technical seminars will be presented this summer to share new analyses and scientific study in areas of concern frequently noted in the comments received on the Draft EIS. The first seminar, held on June 7, presented an update on the marine outfall. Two other seminars, held at UW Bothell on July 19 and August 16, will present information on the treatment & conveyance system and on scientific & engineering studies, respectively. Public comment will be accepted on this new information before, during, and after each of the technical seminars for consideration by the Brightwater team in preparing the Final EIS. A brochure announcing the Brightwater Technical Seminars was mailed to 60,000 people in the siting area.

Project Web site: A project Web site that is regularly updated serves to both inform the public and invite their participation in the Brightwater siting process. The site receives approximately 1,000 visitors each month, allowing them to comment, ask questions, and receive information. The Web site can be accessed at <http://www.dnr.metrokc.gov/wtd/brightwater>.

Other Brightwater Activities

Predesign on Treatment & Conveyance Facilities

King County DNRP and its consultants are continuing predesign on the Brightwater alternatives. The purpose of predesign is to engineer the alternatives to approximately 30 percent design using more specific and substantial information relating to technology processes, facility size and layout, capacity, hydrology, geology, environment, and cost.

Brightwater Construction Delivery Method

One important step necessary for successfully constructing the Brightwater treatment plant is the selection of an appropriate construction delivery method. Originally, DNRP had planned to use the traditional design-bid-build approach for constructing the treatment plant. However, after a subsequent evaluation of alternative project delivery methods by staff and consultants, DNRP concluded that the Brightwater treatment plant could be implemented most effectively using the general contractor/construction manager (GC/CM) delivery method. This conclusion is further supported by State RCW 39.10.061, which recommends the GC/CM method for use on projects with a construction cost in excess of \$10 million, on projects with

complex scheduling requirements, and on projects where involvement of the general contractor/construction manager during the design stage is critical to the success of the project. All these conditions apply to the Brightwater treatment plant.

In accordance with RCW 39.10.061, DNRP conducted a public notification and review process, including a public hearing on May 2, 2003, to receive public comment on the use of an alternative public works contracting procedure. The King County Executive forwarded the public comments and Draft Ordinance 2003-0190 authorizing the use of GC/CM to the King County Council. On April 21 the council introduced the ordinance and referred it to the Utilities Committee where it is currently undergoing review.

Odor Control

Ordinance 13680 of the Regional Wastewater Services Plan requires King County to establish odor control goals at all treatment plants, to design and operate odor control facilities to meet the goals, and to investigate potential odor control technologies and costs. The ordinance also requires DNRP to recommend odor control policies to the King County Council for inclusion in the RWSP.

King County DNRP has recently completed a comprehensive set of policy recommendations for preventing nuisance odors in and around King County's wastewater facilities and significantly decreasing the odor impacts on communities near the County's wastewater facilities. The recommendations are intended to create a broad program of odor prevention that goes beyond conventional odor control. The recommendations will bring the Wastewater Treatment Division to the forefront of wastewater utilities in its approach to dealing with odor issues. The King County Executive transmitted the policy recommendations in the form of an amendment to Ordinance 13680 to the King County Council in April 16, 2003; the council introduced the amendments on April 21, 2003, and referred them to the Utilities Committee and RWQC for review.

Schedule for 2003

The focus for the second half of 2003 will be to complete and issue the Final EIS in November, continue the engineering, architectural, and geotechnical work on the Brightwater treatment plant and conveyance system, and continue our emphasis on public involvement activities.

Conveyance Improvements

Planning, design, and construction work continues on a number of conveyance projects outlined in the Regional Wastewater Services Plan. Conveyance improvements are outlined under three sections, beginning with planning activities carried out as part of the Conveyance System Improvement (CSI) program. The second section describes projects in design, and the third section describes projects in construction. Schedule information is presented for each planning area and each project. For additional schedule information on the RWSP conveyance projects in design or construction, please refer the final section in this report titled RWSP Project Information.

Conveyance Planning

Wastewater basin planning is underway in several of the county's regional basins as part of the CSI program. The focus of the CSI program is to upgrade and improve the level of service of the regional conveyance system for the 33 local sewer agencies in King and Snohomish Counties. The CSI program integrates with the RWSP and other programs such as asset repair and replacement to provide consistency in conveyance planning system-wide and to take advantage of opportunities to address common issues, leverage resources, and minimize customer disruption.³

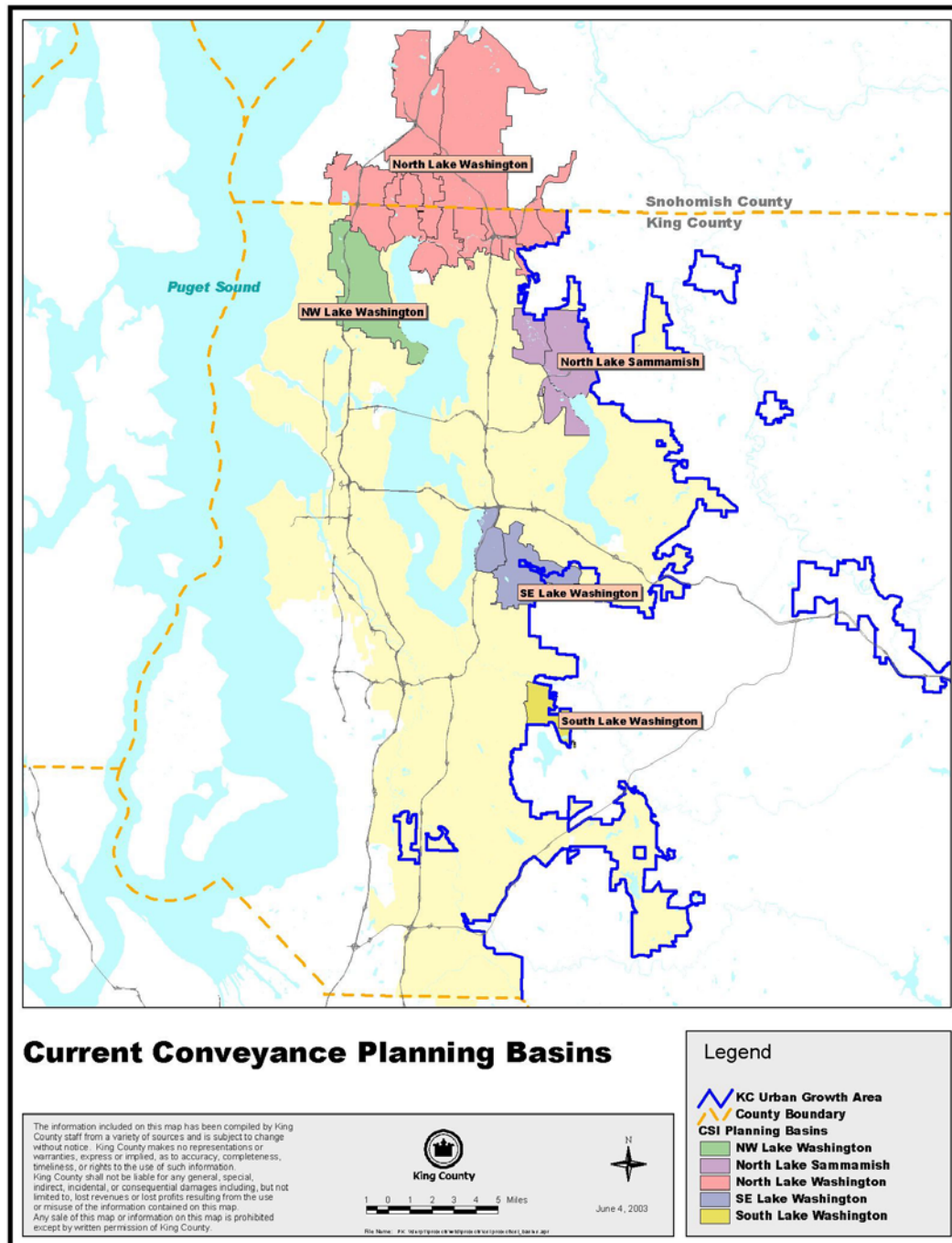
Beginning in 1999, the CSI program identified and prioritized ten planning areas in the wastewater service area. Starting in the highest priority areas, teams of county staff and consultants began a comprehensive planning process to evaluate the area's conveyance needs. The teams identify ranges of flow management alternatives and specified working alternative to address the needs in the various wastewater planning areas. Planning is underway this year in five planning areas: North Lake Sammamish, North Lake Washington, South Lake Washington, Southeast Lake Washington, and Northwest Lake Washington. (Figure 2). Each planning area is summarized as follows.

North Lake Sammamish Planning Area

The North Lake Sammamish planning area which includes Redmond and the north end of Lake Sammamish. While there are no significant problems in this high growth basin, flow management planning was accelerated to coordinate with the Brightwater Treatment Plant siting process because wastewater from this area will ultimately be sent to the new plant. Planning in this basin will be complete by the end of 2003.

3. Visit the CSI Web site at <http://dnr.metrokc.gov/wtd/csi/index.htm> for more information.

Figure 2
Current Conveyance Planning Areas



North Lake Washington Planning Area

The North Lake Washington planning area includes the areas north and east of the Kenmore Interceptor in King and southern Snohomish Counties—an area that encompasses the Brightwater service area. Problems in this basin include overflows from heavy rains and failures resulting from power loss. Improvements have been made to minimize overflows until Brightwater is on line. This is also an area of high population growth. Planning is nearing completion for this area and has identified improvements (pipes and pumps) needed in the regional system to optimize the Brightwater system. This planning effort has also defined the local system configurations in the Brightwater service area.

South Lake Washington Planning Area

The South Lake Washington planning area incorporates the Madsen Creek area of the Cedar River basin. Planning will be complete by December 2003.

Southeast Lake Washington Planning Area

The Southeast Lake Washington planning area incorporates the Hazelwood and Coal Creek area southeast of Lake Washington. This primary issue in this basin is a conveyance capacity limitation at the upstream end of the regional system in this area. King County DNRP is currently working with the Coal Creek Utility District to manage flows to address this problem. DNRP expects to complete planning in this basin by December 2003.

Northwest Lake Washington Planning Area

The Northwest Lake Washington planning area includes the Matthews Park drainage basin in the area of the north and west Lake City Trunks. The issues in this basin include capacity limitations in the McAleer Trunk during large storms, flow restrictions in the Kenmore Interceptor Section 5, and hydraulic jumps in portions of the Thornton Creek Trunk. The planning for this basin will be completed by the end of the year.

Seismic Vulnerability Study

In 1999, the King County Council directed and authorized a seismic vulnerability study to evaluate all the county's major underwater conveyance pipelines. A final consultant task list was developed to assess the vulnerability of these pipelines to earthquake damage and to recommend short- and long-term protective action if warranted. The study, which began in May 2000, assessed pipes under Lake Washington, Lake Sammamish, the Ship Canal, sloughs, rivers, and creeks. The first report, completed in April 2002, assessed the seismic vulnerability of the Kenmore Interceptor and identified a range of working alternatives based on various costs and risks to public health. The second report, completed in August 2002, assessed the seismic vulnerability of six other submerged lake lines and three Ship Canal siphons.

The third report, due in June 2003, will evaluate 30 additional pipes in submerged or liquifiable soils. A summary report, also due in June 2003, will assist KCDNR in determining how to proceed with possible retrofits or actions.

Projects in Design

After a working alternative for a particular conveyance project is identified during the planning process, the project starts predesign and is assigned a project number and project manager. Following predesign, which takes a project through approximately 30 percent of the design process, the project starts final design, where detailed drawings and specifications for construction are developed. There are five RWSP projects currently in design. The projects are shown in Figure 3.

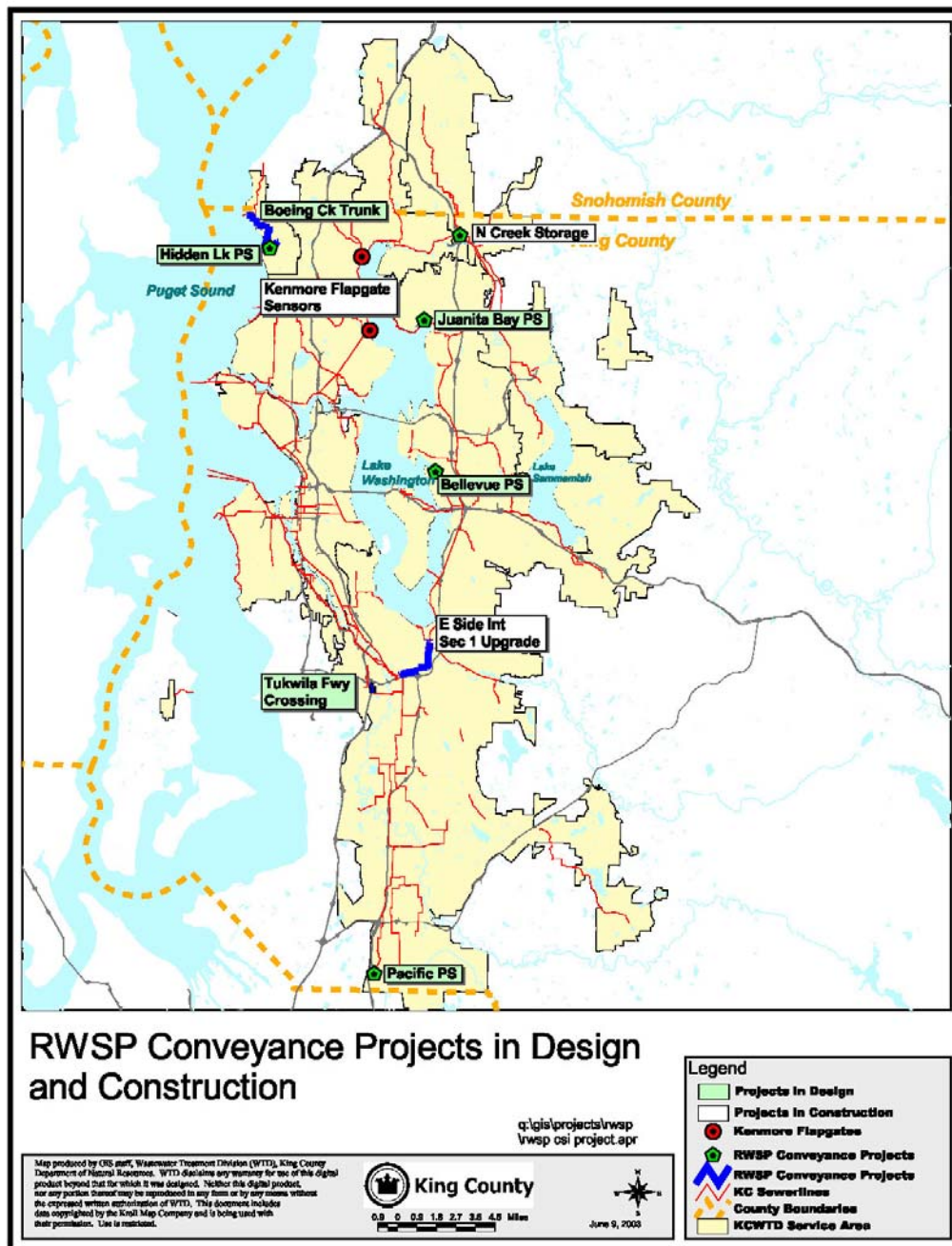
Bellevue Pump Station

A preferred alternative was selected to divert excess flows from the Sweyolocken Pump Station by upgrading the Bellevue Pump Station and constructing a new 5,500 foot-long, 24-inch diameter force main from the pump station to the East Side Interceptor. This project provides needed capacity to prevent sewage overflows at the Sweyolocken Pump Station. Planning for this project was completed in 2000 and consultant selection for the design consultant is currently underway. Final design is expected to be completed in 2004.

Pacific Pump Station

The existing 1.6-mgd Pacific Pump Station, located in City of Pacific street right-of-way, has insufficient capacity to convey existing and estimated future peak flows. This project will construct a new 3.3-mgd pump station in an industrial zoned site suggested by the City of Pacific two blocks to the west of the existing station, which will be abandoned. The new pump station will have features that the existing pump station does not, such as standby power, odor control, improved access and equipment lifting devices. A new forcemain will not be required, as recommended by the planning study, since the flow projections have been revised. Predesign for the project was completed in June 2002 and the 90 percent design was submitted in April 2003. Construction bid advertisement is scheduled for fall 2003.

Figure 3
RWSP Conveyance Projects in Design and Construction



Juanita Bay Pump Station

The Juanita Bay Pump Station is an aging facility that is experiencing significant operational difficulties in conveying existing flows and has insufficient capacity to convey future flows. A new pump station is being designed to replace the existing 14.2-mgd pump station. A site for the new pump station was purchased across the street from the existing station. Final design work was recently begun and is targeted for completion in 2004. Technical issues identified during last year's preliminary design work are being addressed, including designing a pumping system that will address this basin's challenging hydraulic requirements and designing a building structure on a site with complex soil and groundwater conditions.

Hidden Lake Pump Station and Boeing Creek Trunk

The 40-year old Hidden Lake Pump station does not have capacity to handle existing or future peak storm flows, nor does it meet current design standards of odor control, instrumentation, space, and equipment handling. Further, the pump station discharges to the Boeing Creek Trunk, which has a history of capacity, odor, and corrosion problems. This project will address these problems through system improvements. A separate pilot project will find out how effective infiltration and inflow removal can be in this basin. The system improvements will occur in two phases: phase I will control overflows for the 5-year storm and increase the capacity of the Boeing Creek Trunk to handle the 20-year storm. The capacity increases include a new Hidden Lake Pump station with a firm capacity of 5.5 mgd and a future peak capacity of 6.8 mgd built on the existing site; a 10.5MG storage facility constructed upstream of the pump station; and approximately 12,000 linear feet of pipeline replacement. Phase 2 will consist increasing the capacity of the Richmond Beach Pump Station and additional pipeline replacement downstream of the Richmond Beach Pump Station. The project is being built in phases to determine whether or not I/I reduction will enable us to reduce the size of planned facilities. The length of pipe to be replaced will be determined based on the amount of I/I reduction achieved. Predesign was completed in January 2003 and final design should be completed in spring 2004.

Tukwila Freeway Crossing

King County DNRP is evaluating alternatives to upgrade portions of the Tukwila Interceptor and Tukwila Freeway Crossing under the I-5/I-405 freeway near Tukwila. The working alternative will initially parallel or replace portions of the Tukwila Freeway Crossing, but before the project is ready for predesign we must receive additional information from the Port of Seattle regarding their predicted industrial waste discharges and sanitary flow into our system. In addition, we are working with the City of Tukwila to accommodate proposed South Center redevelopment plans. This project will likely begin after the year 2004; this phasing is supported by the anticipated completion of planning in the North Green River planning area.

Projects in Construction/Underway

Two large capital projects began construction late last year, the North Creek Storage facility and the repairs to a damaged section of the East Side Interceptor. In addition, we are now testing the flapgate sensors on the Kenmore Interceptor. Construction projects are shown on Figure 3 (page 13).

North Creek Storage

Construction has been underway since November 2001 on the 6-million-gallon North Creek Storage facility. This underground facility, located at the site of the North Creek Pump Station, will store sewage flows from the Bothell-Woodinville and North Creek Interceptors during large storms, providing protection against sanitary sewer overflows into Lake Washington upstream of the Kenmore Interceptor. After the storm, the stored wastewater will be pumped back into the interceptors. The anticipated end of construction is December 2003.

East Side Interceptor

The East Side Interceptor (ESI) is the primary conveyance for wastewater from the eastside communities to the South Treatment Plant. In 1965, a section of the ESI was damaged during an earthquake. The repair of the damage reduced the capacity of the pipe. This project restores the East Side Interceptor to its original design capacity of 224 mgd by constructing 1,800 feet of 72-inch pipeline around the earthquake-damaged section (Section 1). The construction used a tunnel-boring machine, placing the new pipe approximately 30 feet underground. Construction began in November 2001 and was completed in February 2003.

Kenmore Interceptor Flapgate Sensors

The Kenmore Interceptor, also known as the Lake Line, is a gravity sewer in Lake Washington that conveys sewage from the Kenmore pump station and Log Boom Regulator into the Matthews Beach Pump Station. The Lake Line has a series of seven flap gates that open automatically if the line becomes surcharged during extreme high flows, protecting the Matthews Beach Pump Station from flooding or shutting down. This only happens on rare occasions but, until recently, it was difficult to confirm whether the flap gates had opened and discharged sewage into the Lake. To address this issue, DNRP committed to a system that can monitor the flap gates so we can alert residents of potential health hazards if the gates open and discharge sewage. The county completed the design of the flap gate monitors and the components were installed in July 2001. We then began testing the sensors and developing a response sequence for use by Wastewater Operations and Maintenance staff are working with the City of Lake Forest Park and the nearby community on ways to keep them informed in the event the flap gates open. Testing will continue through 2003 with full operation anticipated in mid-2004.

Infiltration and Inflow

The Regional Infiltration and Inflow Control program is a comprehensive six-year study to identify sources of infiltration and inflow (I/I) into local sewer systems. The study is based on a cooperative partnership between King County and the 33 local component agencies that provide wastewater collection services within King County and portions of Snohomish County. The primary goal of the program is to define current levels of I/I within each local agency, determine how much I/I is cost effective to remove, and develop a plan for the long-term control of increased I/I into the service area and regional system.⁴

A considerable amount of work was accomplished during the first half of 2003. This included completing the engineering and design specifications associated with twelve I/I pilot rehabilitation projects, monitoring flow in the pilot basins plus ten control basins, completing the procurement process for the pilot projects, completing the calibration of the I/I model for 146 basins throughout the King County service area, and setting up the hydraulic model to simulate 20 year flows volumes throughout the entire conveyance system.

Conveyance System Hydraulic Modeling

The I/I model was calibrated for 146 basins using flow monitoring information collected over two wet seasons in the separated portion of the service area (the portion with no combined sewers). Data from the I/I modeled will allow us to simulate 20-year peak design flows⁵ in our separated system and determine downstream impacts. It will also simulate the effect different reductions in infiltration and inflow could have on the system. New population projections from the Puget Sound Regional Council were obtained in March 2003 and will be used in conjunction with the new I/I data to develop new estimates for peak flows throughout DNRP's service area for several decades in the future.

4. To learn more about infiltration and inflow, please visit the Web site at <http://dnr.metrokc.gov/wtd/i-i/index.htm>

5. 20-year peak flow is the amount of base flow and I/I expected to enter the wastewater system during a storm of an intensity that occurs once every 20 years on average

Developing Standards, Procedures, and Policies

On October 30, 2002, the King County Executive received the draft regional I/I control standards, procedures, and policies for new construction, rehabilitation of existing sewer systems, and sewer system maintenance for local agencies per RWSP I/I Policy 2.2. The Executive forwarded the draft standards, procedures, and policies to the King County Regional Water Quality on December 11, 2002, who passed a motion to accept MWPAAC's recommendation that they be used during the pilot projects where possible. These standards are based upon existing local agency standards and practices as well as national industry practices. They were developed to provide a uniform and effective methodology to locally control I/I levels, including I/I sources on private property.

Following completion of the program's pilot projects, the MWPAAC Subcommittee will resume its review of the draft standards, procedures, and policies for their final completion and inclusion in the Executive's recommended long-term plan to control infiltration and inflow, per RWSP I/I Policy 2.4.

Pilot Projects

One important component of the first phase of the I/I program is to implement pilot rehabilitation projects in the local sewer systems to demonstrate the effectiveness of I/I controls. On April 29, 2002, the King County Council approved the listing of pilot projects, satisfying RWSP Policy 2.1 for submittal and approval of pilot projects prior to July 31, 2002. MWPAAC selected ten pilot projects from the list for implementation. There are three each from north, east, and south regions of the system. The tenth pilot project for manhole rehabilitation combined three local agencies into one project. Due to the construction market this tenth pilot project will be divided out into three separate construction contracts.

All pilot project design work was completed by early May with contract advertising beginning in mid-May. Staff plans to have all contracts awarded with Notice to Proceed by mid-July and all projects substantially completed by November 1, 2003. For winter 2003–04, DNRP will conduct post-construction flow monitoring at all 12 pilot basins to evaluate the I/I removal effectiveness of the pilot projects. Rainfall events will also be measured both in basins that have been rehabilitated and in nearby basins that have not been rehabilitated. The results of this monitoring will be used along with the modeling results to establish the effectiveness of the rehabilitation efforts.

All of the pilot basins were evaluated prior to design work. The evaluation included inspection using smoke testing, mainline and lateral closed circuit television, and manhole inspection. These investigations identified defects in the mains, service connections, laterals and manholes. Defects included deformed pipes, holes, roots, cracks, joint infiltration, staining and deposits. A summary of each pilot project is provided as follows.

City of Auburn: The work will occur in the southeastern portion of the Auburn service area adjacent to Auburn Way South. It is primarily residential and includes the Auburn Adventist Academy. Work includes pipe bursting of about 2200 linear feet of main and 1,800 linear feet of side sewers, replacing about 9 manholes and installing about 24 cleanouts. A cleanout is a small maintenance access point used to check on a line.

City of Brier: In this residential area of Brier the City replaced a portion of its system with PVC pipe in 1982. This pilot project will continue rehabilitation of the area with a cured-in-place lining of the 12-inch and 8-inch mainline sewer and chemical grouting of 36 manholes.

Coal Creek Utility District: This is the first of three manhole repair projects. 47 of the 116 manholes will receive an interior coating. The remaining manholes will be rehabilitated using a variety of methods, including realigning or resetting the frame, installing a pan under the lid, repairing the pipe penetrations, chimney repair, or chemical grouting.

City of Kent: This pilot project is in a residential neighborhood with some commercial properties. The project focuses on rehabilitation of over 300 private property side sewers and laterals. Contractors will use a cured-in-place lining system to rehabilitate the lines.

City of Kirkland: The residential neighborhood just south of downtown Kirkland will have new mains, service connections, laterals and manholes. This project will only rehabilitate pipes within the right-of-way.

City of Lake Forest Park: Repairs will be performed within the entire identified basin. The mains, manholes, and service connections showing significant defects will be repaired using a cured-in-place lining of 8 inch and 12-inch mainline sewers, coating or epoxy injection of 42 manholes, and trenchless rehabilitation of 128 service connections.

City of Mercer Island: In this residential area only main lines will be rehabilitated using a cured-in-place liner. A trenchless rehabilitation method will be used to reconnect local service to the mainline.

Northshore Utility District: This is the second of the three manhole repair projects. Manholes will be rehabilitated using interior coating, realigning or resetting the frame, installing a pan under the lid, repairing the pipe penetrations, chimney repair, leveling rings, installing an interior chimney boot, chemical grouting or spot repairs with grout.

City of Redmond: Mains, manholes, service connections and laterals will be repaired in Redmond's downtown commercial/residential neighborhood. Work includes a cured-in-place lining of about 6,100 linear feet of mains plus service connections and laterals.

Ronald Wastewater District: RWD designed and contracted its own I/I rehabilitation project. The District is adding up to \$900,000 of local money to the pilot project. The project includes pipe bursting about 223 side sewers from the street to the home, replacing about 19 side sewers, laterals and service connections; installing about 348 cleanouts and repairing a sewer main in several locations with a trenchless spot repair method.

Skyway Water and Sewer District: Skyway is adding up to \$900,000 to this I/I reduction pilot project within an unincorporated King County area referred to as West Hill and Bryn-Mawr. The project involves the complete replacement of 9,600 linear feet of mains, 15,000 linear feet of laterals and side sewers, and 38 manholes.

Val Vue Sewer District: This is the third of the three manhole rehabilitation projects. Of 30 manholes to be fixed, 25 will receive an interior coating and 9 will receive a variety of repairs including realigning or resetting the frame, installing a pan under the lid, repairing the pipe penetrations or chimney repairs.

Pilot Project Assessment Monitoring

To better assess the level of I/I reduction associated with some of the pilot projects, King County will monitor flow before and after the rehabilitation work. To accomplish this, seven mini basins have been sub-divided into rehabilitation sub-basins and a control sub-basin. Beginning in November 2002 and continuing through January 2003, flow in these sub-basins will be monitored prior to any rehabilitation work. The basins will be monitored again after the rehabilitation work is complete from November 2003 through January 2004.

Workshops

Participants of Workshop 9 on January 14, 2003, reviewed information on what was found during the sewer system evaluations and details on the planned rehabilitation work scheduled for each pilot project area.

On May 5 and 6, King County sponsored a trenchless construction inspector training class for all sewage districts with pilot projects. About 50 people attended the lecture and demonstration workshop.

Schedule for 2003

Pilot Basins/Projects

In the second half of 2003, all pilot project construction work will be substantially completed so that flow meters can be installed in the system to capture data for the winter months. The results of the post-construction monitoring will be used to measure the affect the rehabilitation work had on reducing I/I within the basin.

Conveyance System Hydraulic Modeling

King County DNRP will continue to set up the hydraulic routing models. And be able to simulate the flow throughout the conveyance system by summer 2003. These models will then be used to assess the benefits of I/I reduction in various areas of the collection system.

Standards, Procedures, and Policies

There will be no additional work on the standards, procedures and policies during 2003; work will continue after the results of the post-flow monitoring period are received in early 2004.

Workshops

No workshops are currently scheduled for the remainder of 2003.

Combined Sewer Overflows

The primary work effort for the CSO Control program in the first half of 2003 has been to lay the groundwork for future combined sewer overflow control projects and for the 2005 CSO Update. This work includes coordinating with the City of Seattle on their CSO Plan Update and continuing our response to the Environmental Protection Agency's Superfund listing of the Lower Duwamish Waterway. We are also moving forward with our sediment management plan. Each of these activities is described in more detail below.⁶

CSO Control and Improvement

This project will implement 21 combined sewer overflow projects identified in the Council-approved Regional Wastewater Services Plan between the years 2005 and 2030. Combined sewer overflows (CSOs) are discharges of dilute wastewater to receiving waters that occur primarily during large storms when excess rainfall exceeds the capacity of the pipelines. These discharges can contribute pathogens, organic material, sediments, and chemicals to local waterbodies. The County owns 37 CSO outfalls which are located along Lake Washington, the Ship Canal, the Duwamish River, Elliott Bay, and Puget Sound.

This project currently provides preliminary support services, such as coordination and modeling for the City of Seattle CSO control program, coordination with the Washington Department of Transportation Viaduct Project, and coordination with the Washington Department of Natural Resources to standardize lease/lien approaches and facilitate project reviews.

Year 2005 CSO Plan Update and Program Review

The RFP (request for proposals) for consultant services for the Program Review was issued March 2003 and four firms responded. The selection process is underway with Notice to Proceed expected by end of June, budget permitting. The program review, which was mandated by the King County Council in their adoption of the RWSP, will address several objectives.

- Maximize use of existing CSO control facilities
- Identify the public and environmental health benefits of continuing the CSO control program
- Ensure projects are in compliance with new regulatory requirements and objectives such as the ESA and the Wastewater Habitat Conservation Plan

6. To learn more about CSOs, please visit the Web site at <http://dnr.metrokc.gov/wtd/cso/index.htm>

- Analyze rate impacts to ensure that the program review will honor and be consistent with long-standing commitments
- Assess public opinion
- Integrate the CSO control program with other water/sediment quality improvement programs for the region

Any program changes recommended by the Executive, Regional Water Quality Committee, and the King County Council will be addressed in the Plan Update that follows. Final planning for the first CSO control projects under the RWSP will begin in 2005 following completion of the program review and 2005 Plan Update process.

Lower Duwamish Superfund Site

DNRP is partnering with the City of Seattle, the Port of Seattle, and Boeing—in coordination with EPA and Ecology—under a consent agreement to prepare a remedial investigation and feasibility study (RI/FS) for the Lower Duwamish Waterway Superfund Site.⁷ The agreement gave DNRP the opportunity to shape the process and to implement any clean ups earlier than would occur under a traditional Superfund approach. DNRP is continuing to meet the consent agreement, completing the Phase 1 remedial investigation and the identification of candidate sites for early action cleanup. The partnership has committed to moving forward on four of the early action sites which will get those portions of the waterway cleaned up years earlier. We are also participating in two of those early action sites at Diagonal/ Duwamish CSO and Slip 4. In addition, DNRP worked with the City of Seattle and Port of Seattle to secure a state grant for the portion of this work done in the 2001–2003 biennium.

Sediment Management Program

King County is responsible for cleaning up sediment contamination related to combined sewer overflows under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the state Model Toxics Control Act (MTCA). King County's plan is to comply with these regulations and meet the following objectives:

- Remediate sediments in a timely, efficient, and economical way
- Prevent harm to public health
- Limit future liability

7. This listing could impact the priorities for CSO control that were identified in the Regional Wastewater Services Plan. The 2005 Plan Update will assess this impact.

In 2003, DNRP should complete a beta version of a sediment recontamination model needed for state approval of cleanup actions. Our contractor, responsible for the individual site studies for the cleanups identified in the plan, has begun work on the first of the cleanup sites in front of the old Denny Way outfall structure. This 3-year project will clean up the remaining contaminated sediment in the nearshore area adjacent to the Denny outfall. DNRP is coordinating cleanup work at Hanford and Lander CSOs with Port of Seattle dredging in East Waterway.

Schedule for 2003

A consultant will be hired in the third quarter of 2003 to work on the CSO Control program review, which will be used to develop the 2005 CSO Plan Update.

King County DNRP will continue its support of the RI/FS process for the Lower Duwamish Consent Order and will begin investigatory work for remediation of the early action clean up site in Slip 4, as well as memorandums of understanding (MOUs) with our partners. We also expect to move ahead on the sediment management program in 2003–08 with contaminated sediment cleanups at two locations: Denny Way CSO, Diagonal/Duwamish CSO (as an Elliott Bay/Duwamish Restoration Panel project). In addition, we will begin the cleanup process at two more CSO locations, Hanford and Lander. King County DNRP will continue to work cooperatively with the Port of Seattle, the City of Seattle, and Washington Departments of Natural Resources and Ecology to further cleanup efforts and share implementation costs. The timing of these cooperative opportunities could lead to proposed changes to the sediment management plan schedule.

Biosolids

The primary effort during the reporting period was the ongoing effort of produce Class B biosolids at the county's regional treatment plants. On average, King County produces approximately 135,000 wet tons of biosolids produced each year, all of which is recycled for use in compost, forestry and agricultural applications.⁸

At the end of 2002, King County DNRP completed its assessment of four biosolids processing technologies that could improve biosolids quality, increase the efficiency of existing digesters, reduce truck traffic, and otherwise minimize the potential impacts of solids processing at our wastewater treatment facilities. The technologies were Centridry[®], Vertad[®], microwave gasification, and thermophilic/mesophilic digestion.⁹ Final reports for all four projects have been completed. We continue to have interest in the Centridry, Vertad, and thermophilic/ mesophilic digestion technologies for consideration in future biosolids processing evaluations.

Schedule for 2003

King County DNRP will continue producing Class B biosolids at its regional treatment facilities.

8. Learn more about the biosolids program at <http://dnr.metrokc.gov/WTB/biosolids/index.htm>

9. These processes were summarized on pages 27–28 of the *Regional Wastewater Services Plan 2001 Annual Report*, released in December 2001

Water Reuse & Conservation

The goal of the county's Water Reuse program is to use reclaimed water to meet the water resource needs of this region's residents and environment. The five-year Water Reuse Work Plan was transmitted to council in December 2000 and two primary implementation efforts are underway: the Technology Demonstration Project¹⁰ and the Sammamish Valley Reclaimed Water Production Facility.

Water Reuse Technology Demonstration Project

King County DNRP began operating a water reuse technology demonstration facility at the West Point Treatment Plant in June 2001. The nine-month project evaluated the effectiveness, operability, and cost of seven wastewater treatment technologies. The goal of this program was to identify technologies that could:

- Minimize the size of a satellite treatment facility
- Reduce the costs and potential impacts of producing "Class A" reclaimed water at small, upstream "satellite" plants for commercial and irrigation uses
- Cost-effectively remove nutrients, pathogens, organics, and other contaminants from wastewater as may be necessary to make reclaimed water suitable for discharge to freshwater to supplement surface water supplies

The demonstration facility combined several treatment technologies into small-scale operational process systems to assess their ability to meet process objectives. For example, one of the first technologies operated was a "Fuzzy Filter," which is a column containing tightly packed compressible filter media typically used for tertiary treatment. Another technology tested was a membrane bioreactor. This technology combines a biological process to provide secondary treatment with membrane filters that screen particles larger than one-tenth of a micron from the aerated bioreactor to produce Class A quality effluent. This technology has the potential to eliminate the need for a primary treatment process, secondary clarification, and tertiary filtration. Operation of the facility was completed in March 2002. Final reports assessing the performance of each of the technologies are available. This project received the 2002 Environmental Achievement Award in Research and Technology from the Association of Metropolitan Sewerage Agencies.

Testing of the membrane bioreactor technology continued in 2003. A pilot-scale "flat-plate" MBR is being tested to establish the duration of continuous operation before the membranes need to be cleaned and to identify the impacts of short and long-term peak flows. We are also collecting more data to characterize the quality of water produced by the MBR unit. Data and reports developed as a result of this

10. Please see the new section of the reuse program Web site for more information on treatment alternatives for water reuse project at <http://dnr.metrokc.gov/wtd/reuse/index.htm>

study will be useful in the evaluation and design of membrane bioreactor treatment systems being considered for the Brightwater and Carnation Treatment Plants as well as the Sammamish Reclaimed Water Production Facility.

Sammamish Valley Reclaimed Water Production Facility

In 1997, the Water Reuse Policy Development Task Force adopted a needs statement suggesting that “recycling and reusing highly treated wastewater effluent should be investigated as a significant new source of water.” As part of the RWSP, DNRP is striving to meet the intent of this statement in part by evaluating this region’s need for a satellite treatment facility and its ability to support it. We worked with a Stakeholder Task Force to solicit and rank nominations from public and private parties interested in partnering to implement water reuse demonstration projects. In all, we received 11 nominations representing 13 projects.

Each of these projects was ranked based on a set of criteria developed jointly with the Stakeholder Task Force. The criteria evaluated factors such as cost per unit of reclaimed water, regulatory issues, community impacts and support, and integration with other county projects. The Sammamish Valley Reclaimed Water Production Facility, which will produce between one and two million gallons per day of water for irrigation, ranked favorably on all the criteria and therefore received the highest overall ranking. Accordingly, this project was selected for implementation. We began predesign on the facility in December 2001; however, there were questions about the suitability of the original site raised by the local jurisdiction so new predesign efforts are underway for alternative sites. The schedule for the project will be revised after confirming a new site for the facility.

Water Conservation Program

Under the Regional Wastewater Services Plan, the King County Council decided to implement a water conservation program to provide a holistic approach in water resource management and to reduce impacts to the wastewater system.¹¹ Specifically, the RWSP policy calls for King County to “support regional water supply agencies and water purveyors in their public education campaign on the need and ways to conserve water through pilot projects that support homeowner water conservation, emphasizing strategies and technologies that reduce wastewater.”

11. For more information about King County’s Water Conservation Program, call (206) 296-8361.

King County DNRP has \$300,000 per year for a five-year program.. King County has contributed to a Regional Awareness Campaign coordinated by the Water Conservation Coalition of Puget Sound called Water Use it Wisely. In addition, major water conservation audits and retrofits have been implemented resulting in substantial water conservation savings.

Water Audits and Retrofits

In 2003, several King County facilities (parks, pools, public health, district court, and sheriff precinct) are being audited and orders will be placed for water conserving fixtures, including toilets, urinals, faucets, faucet aerators, and timed showers. The fixtures are projected to save over 4,000,000 gallons per year. Because of the high use at a number of these facilities, they offer a good venue for water conservation-related informational signage.

Public Education and Outreach

King County DNRP will continue development of educational materials that urge customers to keep trash out of the wastewater stream and remain active in the Water Conservation Coalition of Puget Sound.

Schedule for 2003

Technology Demonstration Program: In 2003, the program will stress test a pilot-scale membrane bioreactor (MBR) unit to identify the impacts of short and long-term peak flows. The program will also test alternative MBR operating and control strategies with the potential to treat more wastewater to the same high quality without increasing the number of membranes. Results of this work could be reflected in the design and operation of the Sammamish Valley Reclaimed Water Production Facility and other future MBR-based treatment facilities.

Sammamish Valley Reclaimed Water Production Facility: Predesign will continue for new project sites for the facility. Final design will begin as soon as a suitable site is identified.

Water/Wastewater Conservation Program: Water audits and retrofits for county buildings will continue in 2003, as will support of regional water conservation outreach and education programs.

RWSP Project Information

This section provides additional information for each RWSP capital project as required by Ordinance 14018 in the 2001 Budget Proviso; namely, the year-to-date budget and staffing status. The projects are organized in the following tabs as shown in Table 3.

Table 3
RWSP Capital Improvement Projects

Project	Project Number
Treatment Improvements	
Brightwater Treatment Plant	423484
Marine Outfall Siting Study	423457
Conveyance Improvements	
RWSP Conveyance System Improvements	423373
East Side Interceptor Section 1 Repair	423420
North Creek Storage	423519
Tukwila Interceptor/Freeway Crossing	423520
Hidden Lake/Boeing Trunk Upgrade Improvement	423365
Juanita Bay Pump Station Modifications	423406
Pacific Pump Station	423518
Bellevue Pump Station	423521
Infiltration & Inflow	
RSWP Local System I/I Control	423297
Combined Sewer Overflow Controls	
CSO Plan Update	423441
CSO Control & Improvement	423515
Sediment Management Program	423368
Water Reuse	
Sammamish Valley Reclaimed Water Production Facility	423528
Water/Wastewater Conservation Program	423523

Table 3 shows that there are 16 RWSP capital projects in various stages of design and construction. Figure 4 shows the information provided for each project, including the project's scope, milestones, schedule, budget, and contract status. Each of these fields are described in more detail below and are consistent with the reporting requirements for Regional Wastewater Services Plan projects per Ordinance 13680 and by proviso in Ordinance 14018.

Project Number

Each wastewater capital project is assigned a six-digit number such as 423413. The first two numbers (42) identify this as a wastewater project (as opposed to a transit project or roads project). The third number (3) identifies the project as a capital project (as opposed to operating) and the last three numbers are sequential numbers reflecting the order the projects were assigned in a particular year.

Cash Flow and Percent Spent

The cash flow is the project budget for the year as approved by the King County Council. The “Percent Spent” number reflects how much of that year’s budget has been spent as of the reporting period.

Project Scope & Milestones

The project scope gives a brief overview of the project as described by the project manager. In general, the narrative describes the project and its purpose. The project milestones identify timeframes for important achievements in the project lifecycle.

Schedule

The project schedule information includes a start date and an end date for the project phases that are appropriate for that project. There are six phases for construction projects: planning, predesign, final design, implementation, closeout, and land acquisition.

Project Cost

Project costs are provided for contracts, staffing, and permits & right-of-way (ROW) expenditures. The costs come from the IBIS financial reporting system and are reported both year-to-date and life-to-date for the month indicated.

Contract Information

There are generally four types of contracts associated with wastewater capital projects as identified by the first letter in the contract number: ‘P’ denotes a professional services contract, ‘E’ denotes an engineering & architectural services contract, ‘T’ denotes a technical consultant services contract, and ‘C’ denotes a construction services contract. The information provided for each contract is the total paid by project as of the report date and the contract amount. In some cases, a contract may support several projects, such as on call services, so the project may use only a portion of the contract amount.

Figure 4
Project information sheet

Project No. and Title

423484 Brightwater Treatment Plant

Council District: N/A**Project Manager:** Popiwny, Michael**2003 Cash Flow:** \$46,952,000**Phase:** Planning**Appropriation:****Percent Spent:** 22%

Predesign 30%

A20220 Brightwater Treatment Plant-
New Facilities & Improvements**Project Scope**

This project will site, design, and construct a new 36-mgd wastewater treatment facility as described in the 1999 Council-adopted Regional Wastewater Services Plan. The new treatment plant is a key element of the County's strategy to provide necessary capacity to meet wastewater demand and comply with federal and state regulations in the years ahead. If this facility is not constructed, the county's sewer customers would face wastewater capacity problems by approximately 2010. Project scope includes: 2000 - early 2003: Siting work, including technical screening, environmental analysis, mitigation analysis, community outreach, intergovernmental coordination, right-of-way analysis, engineering analysis, and general coordination; 2002, 2003: Land acquisition; 2002-2004: Pre-design, including environmental review, mitigation analysis, community outreach, engineering and general coordination; 2003-2006: Design, including environmental review, mitigation analysis, community outreach, engineering, and general coordination; and 2005-2010: Construction and closeout

2003 Milestones

Mid 2003 -- Issue Final EIS

Mid 2003 -- Executive selects the final site, conveyance route and marine outfall location for the Brightwater System

Mid 2003 -- Permit submittals Begin for the Brightwater System

Mid 2003 -- Pre-design and Siting phases are complete and Design phase begins

Phase	Schedule	Start	Finish	Project Cost	Year to Date	Life to Date
1 Planning		1/1/2001	6/30/2003	Type of Project Cost	APR-03	APR-03
2 Predesign		1/1/2002	6/1/2003	CONSTRUCTION	\$0	\$12,028
3 Final Design		6/1/2003	12/30/2006	ENGINEERING	\$1,102,601	\$12,181,807
4 Implementation		6/30/2005	12/30/2009	OTHER COSTS	\$629,209	\$2,243,766
5 Closeout		1/1/2010	12/30/2011	PERMITS & ROW	\$7,710,553	\$7,737,125
6 Land Aquisition		1/1/2002	12/31/2004	STAFF LABOR COSTS	\$843,423	\$5,841,239
				STAFF LABOR LTD Hours 104,750		
				Total Project Cost:	\$10,285,786	\$28,015,966

Current Contract Information**Contract Number and Title**

	Total Paid by Project	Contract Amt
2002-01/SNOHOMISH COUNTY - BRIGHTWATER PROJECT	\$251,621	\$664,265
COLFP112902/BRIGHTWATER ENVIRONMENTAL IMPACT STATEMENT	\$20,000	\$20,000
COS112102/BRIGHTWATER ENVIRONMENTAL IMPACT STATEMENT	\$20,000	\$20,000
E03030EWO BASED MULTIDISCIPLINARY ENVIRONMENTAL SERVICES	\$80,828	\$250,000
E13035E/ENGRG. SVCS FOR BRIGHTWATER TREATMENT PLANT	\$2,011,855	\$9,719,364
E23002E/ARCHITECTURAL, LANDSCAPE ARCH & INTERIOR DESIGN	\$935,697	\$4,440,618
O\W\SD12502/BRIGHTWATER ENVIRONMENTAL IMPACT STATEMENT	\$20,000	\$20,000
P03012P/RWSP PROGRAM MANAGEMENT SERVICES DEVELOPMENT	\$3,555,708	\$9,512,780
P93012P SITE SELECTION AND MITIGATION FOR NEW REGIONAL WASTEWATER	\$7,146,763	\$9,812,491
P93013P ON-CALL MANAGEMENT, PROFESSIONAL AND TECHNICAL SERVICES FOR	\$584,743	\$1,600,000

Project No. and Title

423484 Brightwater Treatment Plant

Council District: N/A**Project Manager:** Popiwny, Michael**2003 Cash Flow:** \$27,250,332**Phase:** Planning**Appropriation:****Percent Spent:** 44%

Predesign 30%

A20220 Brightwater Treatment Plant- New
Facilities & Improvements**Project Scope**

This project will site, design, and construct a new 36-mgd wastewater treatment facility as described in the 1999 Council-adopted Regional Wastewater Services Plan. The new treatment plant is a key element of the County's strategy to provide necessary capacity to meet wastewater demand and comply with federal and state regulations in the years ahead. If this facility is not constructed, the county's sewer customers would face wastewater capacity problems by approximately 2010. Project scope includes: 2000 - early 2003: Siting work, including technical screening, environmental analysis, mitigation analysis, community outreach, intergovernmental coordination, right-of-way analysis, engineering analysis, and general coordination; 2002, 2003: Land acquisition; 2002-2004: Pre-design, including environmental review, mitigation analysis, community outreach, engineering and general coordination; 2003-2006: Design, including environmental review, mitigation analysis, community outreach,

2003 Milestones

Mid 2003 -- Issue Final EIS

Mid 2003 -- Executive selects the final site, conveyance route and marine outfall location for the Brightwater System

Mid 2003 -- Permit submittals Begin for the Brightwater System

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	<u>Year to Date</u>	<u>Life to Date</u>
1 Planning		1/1/2001	6/30/2003	Type of Project Cost	MAY-03	MAY-03
2 Predesign		1/1/2002	6/1/2003	CONSTRUCTION	\$0	\$12,028
3 Final Design		6/1/2003	12/30/2006	ENGINEERING CONTRACTS	\$2,045,814	\$13,125,020
4 Implementation		6/30/2005	12/30/2009	OTHER COSTS	\$967,150	\$2,581,707
5 Closeout		1/1/2010	12/30/2011	PERMITS & ROW	\$7,801,231	\$7,827,804
6 Land Aquisition		1/1/2002	12/31/2004	STAFF LABOR COSTS	\$1,064,312	\$6,062,128
				STAFF LABOR LTD Hours 108,674		
				Total Project Cost:	\$11,878,508	\$29,608,687

Current Contract Information**Contract Number and Title****Total Paid
by Project****Contract Amt**

2002-01/SNOHOMISH COUNTY - BRIGHTWATER PROJECT	\$251,621	\$664,265
COK12902/BRIGHTWATER ENVIRONMENTAL IMPACT STATEMENT	\$3,111	\$20,000
COLFP112902/BRIGHTWATER ENVIRONMENTAL IMPACT STATEMENT	\$20,000	\$20,000
COS112102/BRIGHTWATER ENVIRONMENTAL IMPACT STATEMENT	\$20,000	\$20,000
E03030E/WO BASED MULTIDISCIPLINARY ENVIRONMENTAL SERVICES	\$80,828	\$250,000
E13035E/ENGRG. SVCS FOR BRIGHTWATER TREATMENT PLANT	\$2,063,424	\$9,719,364
E23002E/ARCHITECTURAL, LANDSCAPE ARCH & INTERIOR DESIGN	\$1,119,821	\$4,440,618
OVWSD12502/BRIGHTWATER ENVIRONMENTAL IMPACT STATEMENT	\$20,000	\$20,000
P03012P/RWSP PROGRAM MANAGEMENT SERVICES DEVELOPMENT	\$3,555,708	\$9,512,780
P93012P SITE SELECTION AND MITIGATION FOR NEW REGIONAL WASTEWATER	\$7,573,035	\$11,923,230
P93013P ON-CALL MANAGEMENT, PROFESSIONAL AND TECHNICAL SERVICES FOR	\$607,537	\$1,600,000
POE081302/BRIGHTWATER ENVIRONMENTAL IMPACT STATEMENT	\$20,000	\$20,000
SUQUAMISH AGREEMENT/BRIGHTWATER DEIS	\$8,619	\$39,887
T01129T/LEGAL SUPPORT SERVICES FOR NTF	\$478,423	\$1,150,000
T01130T/LEGAL SUPPORT SERVICES FOR NTF SITING	\$376,183	\$1,150,000
T01145T/REAL ESTATE BROKER SUPPORT SVCS FOR NORTH TREATMENT FAC.		\$24,000
T01352T/WRITING & EDITING SERVICES ON A WO BASIS	\$28,890	\$240,000
T01430T/PUBIC RELATIONS FOR BRIGHTWATER TREATMENT PLANT	\$24,954	\$24,998

Project No. and Title

423457 Brightwater Marine Outfall

Council District: N/A**Project Manager:** Simmonds, Jim**2003 Cash Flow:** \$1,163,471**Phase:** Planning**Appropriation:**A20220 Brightwater Treatment Plant- New
Facilities & Improvements**Percent Spent:** 30%**Project Scope**

This project is a technical study to obtain the environmental information needed to understand the flow of water in Puget Sound in the project area, the water and sediment quality conditions in the project area, and the biological resources and human uses in the area. This project, part of the Regional Wastewater Services Plan, is needed to provide basic scientific information on Puget Sound to support the siting of the outfall for the new Brightwater Treatment Plant and information needed for the permitting and predesign process for the new outfall.

2003 Milestones

Final EIs and selection of preferred alternative-1-2 quarter 2003

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	Year to Date	Life to Date
1 Planning		1/1/2000	12/1/2003	Type of Project Cost	MAY-03	MAY-03
2 Predesign				CONSTRUCTION	\$0	\$66,419
3 Final Design		1/4/2004	12/31/2006	ENGINEERING CONTRACTS	\$230,884	\$5,013,179
4 Implementation				OTHER COSTS	\$3,155	\$454,800
5 Closeout				PERMITS & ROW	\$0	\$633
6 Land Aquisition				STAFF LABOR COSTS	\$111,004	\$2,088,548
				STAFF LABOR LTD Hours 60,398		
				Total Project Cost:	\$345,044	\$7,623,578

Current Contract Information**Contract Number and Title****Total Paid
by Project****Contract Amt**

E23006E/ENGRG SVCS FOR THE BRIGHTWATER CONVEYANCE SYSTEM
 E23007E/GEOTECHNICAL SERVICES FOR THE BRIGHTWATER CONVEYANCE SYS
 P93001P PUGET SOUND OCEANOGRAPHIC SUPPORT STUDIES
 P93009P - NORTH TREATMENT FACILITY - MARINE OUTFALL SITING STUDY

\$1,400,886 \$11,217,376
 \$1,217,240 \$11,684,551
 \$1,363,111 \$1,363,247
 \$2,413,302 \$3,030,047

Project No. and Title

423373 CONVEYANCE SYSTEM IMPROVEMENTS

Council District: All**Project Manager:** Peterson, Bob**2003 Cash Flow:** \$15,772,505**Phase:** Planning**Percent Spent:** 48%**Appropriation:**A20420 Conveyance Pipelines and
Storage - New Facilities & Improvements**Project Scope**

The Conveyance System Improvement (CSI) project develops planning-level scopes, schedules, and budgets for all new conveyance projects. Beginning in 1999, the CSI program identified and prioritized ten planning areas in the wastewater service area. Starting in the highest priority areas, teams of county staff and consultants evaluate the area's conveyance needs, identify a range of alternatives, and specify a working alternative to address the needs. Planning is underway this year in five planning areas: North Lake Sammamish, North Lake Washington, South Lake Washington, Southeast Lake Washington, and Northwest Lake Washington. The CIS program is also planning for projects to safeguard the north end against sewer backups and overflows such as those that occurred during the winter storms of 1996-97. Once the project-level planning level work is completed, a new project is created with its own project budget. The CSI project is part of the Regional Wastewater Services Plan.

2003 Milestones

Year 2003 Milestones

Seasonal Newsletters

2nd, 3rd, 4th Q 2003

Conveyance Planning Schedule updated for years 2004-2007 1st Quarter 2003

North Green River Planning complete

1st Quarter 2003

South East Lake Washington planning complete

2nd Quarter 2003

South Lake Washington planning completed

2nd Quarter 2003

North West Lake Washington, SLS and NLS planning completed

2nd Quarter 2003

NLW and SLS projects to Predesign

3rd Quarter 2003

North Green River (Tukwila Freeway Crossing and Interceptor to Predesign)

deferred to 2004

Final CSI project Summary

3rd Quarter 2003

CSI Planning contract close out

4th Quarter 2003

Conveyance Planning Schedule years 2004-2007 approved

4th Quarter 2003

Phase	Schedule	Start	Finish	Project Cost	Year to Date	Life to Date
1 Planning		1/1/2001	12/31/2007	Type of Project Cost	MAY-03	MAY-03
2 Predesign		1/30/2002	12/31/2007	CONSTRUCTION	\$6,333	\$798,486
3 Final Design		1/1/2002	12/31/2007	ENGINEERING CONTRACTS	\$10,032	\$6,828,179
4 Implementation		1/1/2004	12/31/2007	OTHER COSTS	\$6,955,756	\$26,925,972
5 Closeout		10/1/2007	12/31/2007	PERMITS & ROW	\$325	\$3,128
6 Land Aquisition		1/1/2003	2/27/2007	STAFF LABOR COSTS	\$530,819	\$4,002,345
				STAFF LABOR LTD Hours 67,331		
				Total Project Cost:	\$7,503,266	\$38,558,110

Current Contract Information**Contract Number and Title****Total Paid
by Project****Contract Amt**

AGREEMENT #1/TECH SUPPORT FOR THE DEVELOPMENT OF REGIONAL	\$74,908	\$75,000
AGREEMENT #2/DEVELOP GEOLOGIC DATABASE & GEOLOGIC INTERPRETATIONS	\$425,315	\$745,843
C03009C/WEST DIV. CORROSION REPAIRS 2000-2001	\$366,267	\$400,000
C03051C/WEST DIVISION MECHANICAL CONSTRUCTION 2000-2001	\$444,168	\$458,000
C03114C/DIVING INSPECTION AND REPAIRS	\$58,028	\$300,000
C13004C/SEWER REPAIR - 2001-2002	\$12,767	\$100,000
C13123C/EAST & WEST MECHANICAL CONSTRUCTION	\$448,952	\$500,000
C83075C DIVING INSPECTION AND REPAIR	\$34,560	\$250,000
C83161C/MISCELLANEOUS PIPE REPAIRS	\$363,406	\$750,000
C93180C WEST DIVISION - CIP - ELECTRICAL 2000	\$251,425	\$400,000
C93200C WEST DIVISION CIVIL/STRUCTURAL CONSTRUCTION 2000	\$369,724	\$400,000
E83004E CONVEYANCE SYSTEM IMPROVEMENT PROJECT, PROJ MANAG AND	\$4,279,836	\$5,024,613
E93018E CIP ELECTRICAL & ELECTRONICS ENGINEERING SUPPORT SERVICES	\$255,160	\$475,000
P03012P/RWSP PROGRAM MANAGEMENT SERVICES DEVELOPMENT	\$3,555,708	\$9,512,780

Project No. and Title

423420 ESI SECTION 1 CAPACITY RESTORATION

Council District: 06**Project Manager:** Dittmar, David**2003 Cash Flow:** \$1,502,320**Phase:** Construction (CM Support)**Appropriation:**

A20420 Conveyance Pipelines and Storage - New Facilities & Improvements

Percent Spent: 32%**Project Scope**

This Project will construct a bypass pipeline around an earthquake-damaged section of the Eastside Interceptor to restore capacity lost during the repair of the interceptor. The Project will install 1,800 feet of 72-inch diameter pipe by tunneling methods. The project also includes a bifurcation structure and junction structure. This pipeline will bypass the flow around the damaged section of the Eastside Interceptor Section 1 and return this portion of the Eastside Interceptor to its original flow capacity. This project is part of the Regional Wastewater Services Plan.

2003 Milestones

Project will be completed and closed-out in 2003.

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	Year to Date	Life to Date
				Type of Project Cost	MAY-03	MAY-03
1 Planning		1/1/1998	2/28/1998	CONSTRUCTION	\$350,486	\$5,098,343
2 Predesign		3/1/1998	2/28/1999	ENGINEERING CONTRACTS	\$85,065	\$1,582,251
3 Final Design		3/1/1999	9/30/2001	OTHER COSTS	\$1,833	\$581,698
4 Implementation		10/1/2001	3/31/2003	PERMITS & ROW	\$0	\$114,392
5 Closeout		4/1/2003	12/31/2003	STAFF LABOR COSTS	\$48,433	\$620,537
6 Land Aquisition		3/1/1999	9/30/2001	STAFF LABOR LTD Hours 11,370		
				Total Project Cost:	\$485,817	\$7,997,221

Current Contract Information**Contract Number and Title****Total Paid
by Project****Contract Amt**

C03070C/EASTSIDE INTERCEPTOR SECTION 1-CAPACITY RESTORATION PROJECT	\$4,685,977	\$4,685,977
E83010E EASTSIDE INTERCEPTOR, SEC.#1, UPGRADE PREDESIGN	\$1,051,824	\$1,118,152
P03008P/CM SVCS FOR EASTSIDE INTERCEPTOR SECT 1 CAPACITY RESTORATION	\$552,353	\$862,289
P93013P ON-CALL MANAGEMENT, PROFESSIONAL AND TECHNICAL SERVICES FOR	\$607,537	\$1,600,000
T01006T DRAFTING SERVICES - DNR -KC	\$56,969	\$150,000

Project No. and Title

423519 North Creek Storage Facility

Council District: 01**Project Manager:** Dittmar, David**2003 Cash Flow:** \$9,463,159**Phase:** Construction (CM Support)**Appropriation:**

A20420 Conveyance Pipelines and Storage - New Facilities & Improvements

Percent Spent: 37%**Project Scope**

This project will construct a 6 million gallon underground wastewater storage facility adjacent to the North Creek Pump Station. This project will help prevent sewage backups and overflows in the north Lake Washington area by providing additional wastewater capacity until the Brightwater Treatment Plant is constructed in 2010. The storage facility will also include an odor control facility, above ground electrical building, access stair ways, and miscellaneous piping. The project will be constructed by excavating a large hole, constructing the storage facility, then burying the facility. The storage facility will take sewage flows from the Bothell-Woodinville and North Creek Interceptors during large storm events and store the flow until the storm event is over. The stored flow will then be pumped back into the Interceptors. This project is a part of the Regional Wastewater Services Plan.

2003 Milestones

Provide 2 million gallons of storage capacity by 2/12/03.

Substantially Complete by 12/31/03.

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	Year to Date	Life to Date
1 Planning				Type of Project Cost	MAY-03	MAY-03
2 Predesign				CONSTRUCTION	\$3,156,270	\$13,738,342
3 Final Design		1/2/2001	9/30/2001	ENGINEERING CONTRACTS	\$170,859	\$3,419,708
4 Implementation		10/1/2001	12/31/2003	OTHER COSTS	\$9,240	\$2,560,609
5 Closeout		1/1/2004	7/1/2004	PERMITS & ROW	\$0	\$202,730
6 Land Aquisition				STAFF LABOR COSTS	\$154,800	\$823,201
				STAFF LABOR LTD Hours 14,033		
				Total Project Cost:	\$3,491,169	\$20,744,591

Current Contract Information**Contract Number and Title**

	Total Paid by Project	Contract Amt
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C13008C/NORTH CREEK STORAGE FACILITY PROJECT	\$12,627,153	\$18,706,882
E06017E NORTH CREEK STORAGE FACILITY PROJECT	\$2,159,530	\$2,501,718
P03013P/CM SVCS FOR THE NORTH CREEK STORAGE FACILITY PROJECT	\$776,750	\$1,902,819
P93013P ON-CALL MANAGEMENT, PROFESSIONAL AND TECHNICAL SERVICES FOR	\$607,537	\$1,600,000

Project No. and Title

423520 Tukwila Interceptor/Freeway Crossing

Council District: 05**Project Manager:** Peterson, Bob**2003 Cash Flow:****Phase:** Planning**Appropriation:**A20420 Conveyance Pipelines and
Storage - New Facilities & Improvements**Percent Spent:****Project Scope**

This project, part of the Conveyance System Improvement (CSI) Program, is evaluating alternatives to upgrade portions of the Tukwila Interceptor and Tukwila Freeway Crossing under the I-5/I-405 freeway near Tukwila. The working alternative will initially parallel or replace portions of the Tukwila Freeway Crossing, but before the project is ready for predesign we must receive additional information from the Port of Seattle regarding their predicted industrial waste discharges and sanitary flow into our system. In addition, we must complete basin planning for the north Green River basin, which is anticipated to begin early in 2003. Predesign for this project is on hold. This project is part of the Council-approved Regional Wastewater Services Plan.

2003 Milestones

CSI North Green River basin planning completed	1st quarter 2003
Project specified for predesign	2nd Quarter 2003
Milestone	Start Date End Date
Pre-Design	1Q04 3Q04
Design	4Q04 3Q05
Implementation	4Q05 2Q07
Close Out	3Q07 4Q07

Phase	Schedule	Start	Finish	Project Cost	Year to Date	Life to Date
1 Planning				Type of Project Cost	MAY-03	MAY-03
2 Predesign	6/30/2004	3/31/2005		OTHER COSTS	\$0	\$4,096
3 Final Design	4/15/2005	12/31/2005		STAFF LABOR COSTS	\$0	\$55,315
4 Implementation	1/1/2006	3/31/2007		STAFF LABOR LTD Hours 972		
5 Closeout	9/30/2007	12/31/2007				
6 Land Aquisition	1/1/2005	12/31/2006		Total Project Cost:	\$0	\$59,411

Current Contract Information**Contract Number and Title****Total Paid Contract Amt**
by Project

Project No. and Title

423365 HIDDEN LAKE PS/BOEING CREEK TRUNK

Council District: 01**Project Manager:** Locke, Calvin**2003 Cash Flow:** \$1,113,808**Phase:** Predesign 30%**Appropriation:****Percent Spent:** 19%A20520 Conveyance Pump Station - New
Facilities & Improvements**Project Scope**

The 40-year old Hidden Lake Pump station does not have capacity to handle the 20-year design storm, nor does it meet current design standards of odor control, instrumentation, space, and equipment handling. Further, the pump station discharges to the Boeing Creek Trunk, which has a history of capacity, odor, and corrosion problems. This project will address these problems through system improvements and reduction of infiltration and inflow. The system improvements will occur in two phases: phase I will control overflows for the five-year storm and increase the capacity of the Boeing Creek Trunk to handle the two-year storm. The capacity increases include a new Hidden Lake Pump station with a firm capacity of 4.1 mgd and a future peak capacity of 5.5 mgd built on the existing site; a 1.25 MG storage facility constructed upstream of the pump station; and approximately 7,500 linear feet of pipeline replacement. Phase 2 will consist of additional pipeline replacement. The project is being built in phases to determine whether or not I/I reduction will enable us to reduce the size of planned facilities. The length of pipe to be replaced will be determined based on the amount of I/I reduction achieved.

2003 Milestones

9/2003 Complete final design.

9/2003 Submit permit applications and negotiate easements.

<u>Schedule</u>			<u>Project Cost</u>		
Phase	Start	Finish	Type of Project Cost	Year to Date MAY-03	Life to Date MAY-03
1 Planning	6/1/1998	6/13/2000	CONSTRUCTION	\$44,787	\$48,688
2 Predesign	9/26/2001	6/1/2002	ENGINEERING CONTRACTS	\$123,358	\$860,982
3 Final Design	6/1/2002	9/1/2003	OTHER COSTS	\$1,808	\$89,490
4 Implementation	11/1/2004	4/1/2006	PERMITS & ROW	\$2,057	\$2,057
5 Closeout	6/1/2005	12/1/2006	STAFF LABOR COSTS	\$39,387	\$252,990
6 Land Aquisition	8/1/2003	9/1/2003	STAFF LABOR LTD Hours 3,641		
			Total Project Cost:	\$211,397	\$1,254,207

Current Contract Information**Contract Number and Title**C83161C/MISCELLANEOUS PIPE REPAIRS
E03036E/HIDDEN LAKE PUMP STATION

Total Paid by Project	Contract Amt
\$363,406	\$750,000
\$860,426	\$2,699,191

Project No. and Title

423406 JUANITA BAY PS - MODIFICATIONS

Council District: 11**Project Manager:** Okuda, Chris**2003 Cash Flow:** \$3,875,418**Phase:** Predesign 30%**Appropriation:****Percent Spent:** 44%A20520 Conveyance Pump Station - New
Facilities & Improvements**Project Scope**

The Juanita Bay Pump Station is an aging facility that is experiencing significant operational difficulties in conveying current flows and has insufficient capacity to convey future flows. The working alternative recommended by the planning study was to replace the existing 14.2-mgd pump station with a new pump station. The draft predesign report, completed in June 2002, proposed a conceptual design for the new 27-mgd pump station. The report also determined that at least one of the two Juanita Force Mains would need to be upgraded in capacity by the year 2010. A site for the new pump station was identified and purchased. Final design work was recently begun and is targeted to be completed in 2004. This project is part of the Council-approved Regional Wastewater Services Plan.

2003 Milestones

Design to begin in 2002 and be in progress in 2003, including permit acquisition.

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	Year to Date	Life to Date
				Type of Project Cost	MAY-03	MAY-03
1 Planning		1/1/1999	1/3/2000	CONSTRUCTION	\$0	\$6,073
2 Predesign		1/1/2001	8/31/2002	ENGINEERING CONTRACTS	\$138,850	\$1,743,524
3 Final Design		9/1/2002	12/31/2004	OTHER COSTS	\$19,973	\$63,375
4 Implementation		1/1/2005	12/31/2006	PERMITS & ROW	\$1,500,250	\$1,500,250
5 Closeout		1/1/2007	12/31/2007	STAFF LABOR COSTS	\$63,845	\$529,481
6 Land Aquisition		3/1/2002	12/31/2004	STAFF LABOR LTD Hours 9,248		
				Total Project Cost:	\$1,722,918	\$3,842,702

Current Contract Information**Contract Number and Title****Total Paid** **Contract Amt**
by Project

E03037E/JUANITA BAY PUMP STATION AND FORCE MAINS UPGRADE	\$1,694,042	\$6,575,153
E83040E PROFESSIONAL SERVICES FOR CORROSION ENGINEERING	\$39,648	\$300,000
P93013P ON-CALL MANAGEMENT, PROFESSIONAL AND TECHNICAL SERVICES FOR	\$607,537	\$1,600,000

Project No. and Title

423518 Pacific Pump Station

Council District: 07**Project Manager:****2003 Cash Flow:** \$741,070**Phase:** Predesign 30%**Appropriation:****Percent Spent:** 31%A20520 Conveyance Pump Station - New
Facilities & Improvements**Project Scope**

The existing 1.6-mgd Pacific Pump Station, located in City of Pacific street right-of-way in a residential area, has insufficient capacity to convey the existing and future peak flows. This project will construct a new 3.3-mgd pump station at in an industrial zoned site suggested by the City of Pacific two blocks to the west of the existing station, which will be abandoned. The new pump station will have features that the existing pump station does not, such as standby power, odor control, improved access and equipment lifting devices. A new forcemain will not be required, as recommended by the planning study, since the flow projections have been reduced. This project is part of the Council-approved Regional Wastewater Services Plan.

2003 Milestones

5/03 90% design submittal. Submitt plans for building permit

11/03 Receive building permit and any other required permits.

11/03 Advertise for construction

Phase	Schedule	Start	Finish	Project Cost	Year to Date	Life to Date
1 Planning				Type of Project Cost	MAY-03	MAY-03
2 Predesign		4/29/2001	5/1/2002	ENGINEERING CONTRACTS	\$184,277	\$987,159
3 Final Design		5/1/2002	5/1/2003	OTHER COSTS	\$4,169	\$6,879
4 Implementation		5/1/2004	12/1/2005	PERMITS & ROW	\$1,450	\$1,900
5 Closeout		9/1/2005	12/1/2006	STAFF LABOR COSTS	\$41,210	\$266,012
6 Land Aquisition		12/1/2005	1/1/2005	STAFF LABOR LTD Hours 3,570		
				Total Project Cost:	\$231,105	\$1,261,950

Current Contract Information**Contract Number and Title**

E03006E/ENGINEERING SERVICES FOR PACIFIC PUMP STATION
E83040E PROFESSIONAL SERVICES FOR CORROSION ENGINEERING

Total Paid **Contract Amt**
by Project

\$986,836 \$1,351,537
\$39,648 \$300,000

Project No. and Title

423521 Bellevue Pump Station

Council District: 06**Project Manager:** Madden, Ken**2003 Cash Flow:** \$615,499**Phase:** Planning**Appropriation:****Percent Spent:** 6%A20520 Conveyance Pump Station - New
Facilities & Improvements**Project Scope**

This project will upgrade the hydraulic capacity, electrical systems, and control systems for the Bellevue Pump Station. It will also construct a new 5,500 ft long, 24-inch diameter forcemain from the Bellevue Pump Station to the Eastside Interceptor (ESI), thereby reducing the hydraulic load on the Swayolocken Pump Station. The new forcemain will require a new discharge structure at the ESI just upstream of the Wilburton Siphon inlet structure. The project provides needed capacity to avoid raw sewage overflows downstream at the Swayolocken Pump Station. A planning assessment of the alternatives to "off-load" flow from Swayolocken was conducted during 2000. Seven possible alternatives were evaluated; two alternatives were carried forward for further evaluation; alternative 4 (this project) was ultimately selected. This project is part of the Council-approved Regional Wastewater Services Plan.

2003 Milestones

Predesign/design

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	Year to Date	Life to Date
1 Planning				Type of Project Cost	MAY-03	MAY-03
2 Predesign	4/2/2001	12/1/2002		ENGINEERING CONTRACTS	\$181	\$181
3 Final Design	1/1/2001	2/1/2004		OTHER COSTS	\$10	\$1,437
4 Implementation	2/1/2004	12/1/2006		STAFF LABOR COSTS	\$37,808	\$124,742
5 Closeout	1/1/2007	6/1/2007		STAFF LABOR LTD Hours 1,592		
6 Land Aquisition	6/1/2003	6/1/2003		Total Project Cost:	\$37,999	\$126,359

Current Contract Information**Contract Number and Title****Total Paid
by Project****Contract Amt**

Project No. and Title

423297 RWSP Local System I/I Control

Council District: All**Project Manager:** Sturgill, Dan**2003 Cash Flow:** \$9,935,706**Phase:** Predesign 30%**Appropriation:****Percent Spent:** 16%

A20700 Inflow & Infiltration

Project Scope

This project is a five-year regional program to reduce infiltration and inflow (I/I) into the County's wastewater system from local component agency sewers. This program, part of the Council-approved Regional Wastewater Services Plan, is based on a cooperative partnership between King County and its 33 local component agencies. The program is designed to (1) meter and identify I/I sources in local sewer systems; (2) conduct pilot I/I rehabilitation projects in order to identify cost effective I/I removal techniques for this region; (3) regionally evaluate control solutions and their benefit; and (4) ultimately design a long-term enforceable control program to reduce I/I coming from local sewer systems. King County's wastewater system is running out of capacity not only because of new flows generated from population growth, but also because of excessive infiltration and inflow. I/I is the water that enters the sewer system during storms from sources such as leaky sewer pipes, roof drain connections, storm drains and leaking manholes.

2003 Milestones

2/03 - Workshop # 10 Hydraulic model results and overview

3/03 - Award I/I Control Pilot Projects .

5/03 - Begin construction of I/I PP.

6/03 - Program Cost estimating

11/03- Begin post monitoring of PP.

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	Year to Date	Life to Date
1 Planning		1/1/2000	12/31/2005	Type of Project Cost	MAY-03	MAY-03
2 Predesign		4/1/2002	10/1/2002	CONSTRUCTION	\$3,005	\$3,005
3 Final Design		10/1/2002	4/1/2003	ENGINEERING CONTRACTS	\$1,111,322	\$19,443,708
4 Implementation		4/1/2003	11/1/2003	OTHER COSTS	\$53,413	\$732,616
5 Closeout		1/1/2006	12/1/2006	PERMITS & ROW	\$880	\$1,276
6 Land Aquisition				STAFF LABOR COSTS	\$372,196	\$2,434,535
				STAFF LABOR LTD Hours 48,522		
				Total Project Cost:	\$1,540,816	\$22,615,140

Current Contract Information**Contract Number and Title**

E83043E ENG'N SUPPORT FOR REGIONAL I/I CONTROL PROGRAM

E93051E REGIONAL INFILTRATION / INFLOW CONTROL PROJECT

P32001P/AUDIT SERVICES FOR KC CONTRACT E93051E

**Total Paid
by Project**

\$149,935

\$19,255,945

\$19,913

Contract Amt

\$149,935

\$19,410,131

\$25,000

Project No. and Title

423441 Year 2000 - CSO Update

Council District: 4,5,8,10**Project Manager:** Houck, Doug**2003 Cash Flow:** \$579,719**Phase:** Planning**Appropriation:****Percent Spent:** 22%A20620 Combined Sewer Overflow
Control - New Facilities & Improvements**Project Scope**

This project will review the CSO Control Program and adjust the program as needed through the 2005 Plan Update process. The objective of this council-mandated review process is to meet on-going regulatory requirements and county business needs in performing a review & update of the county's CSO Control Plan. The review will provide formal opportunities to assess the impact of new regulations & initiatives impacting the Plan such as TMDLs, ESA and proposed Superfund listings. The 5-year CSO Update is required by the Department of Ecology and the NPDES permit for West Point. This Update assesses progress to date, status of current projects, and description & schedule for future projects. Enforceable commitment to complete the projects listed for the next permit period are made, and they are made an enforceable compliance schedule in the NPDES permit. This project is part of the Council-approved Regional Wastewater Services Plan.

2003 Milestones

All Planning Phase:

Complete alternative development process for projects needing to be changed 12/2003

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	Year to Date	Life to Date
1 Planning		1/1/2001	12/31/2005	Type of Project Cost	MAY-03	MAY-03
2 Predesign				CONSTRUCTION	\$9,333	\$9,333
3 Final Design				ENGINEERING CONTRACTS	\$25,277	\$523,354
4 Implementation				OTHER COSTS	\$1,743	\$34,547
5 Closeout				STAFF LABOR COSTS	\$91,921	\$807,609
6 Land Aquisition				STAFF LABOR LTD Hours 17,298		
				Total Project Cost:	\$128,273	\$1,374,843

Current Contract Information**Contract Number and Title**13320-1937-0180 LAKE WASHINGTON CHINOOK RESEARCH
E83034E YEAR 2000 CSO PLAN UPDATE**Total Paid** **Contract Amt**
by Project\$349,018 \$371,335
\$661,630 \$963,351

Project No. and Title

423515 CSO Control & Improvement

Council District: 4,5,8,10**Project Manager:** Huber, Karen**2003 Cash Flow:** \$139,916**Phase:** Planning**Appropriation:****Percent Spent:** 30%A20620 Combined Sewer Overflow
Control - New Facilities & Improvements**Project Scope**

This project will implement 21 combined sewer overflow projects identified in the Council-approved Regional Wastewater Services Plan between the years 2004 and 2031. Combined Sewer Overflows (CSO) are pressure relief points in the conveyance lines in areas where both sewage and storm water are conveyed in a single pipe. Overflows of dilute wastewater occurs from these points to local waterbodies during bigger storms. The County owns 37 such overflows which are located along Lake Washington, the Ship Canal, the Duwamish River, Elliott Bay, and Puget Sound. CSO can contribute pathogens, organic material, sediments and chemicals to local waterbodies. Between now and 2008, work will occur on the following CSO control projects: Murray and Magnolia will complete design and be in construction; Barton and North Beach will complete predesign; If the County agrees to accelerate Ballard as a joint project with the City of Seattle, the project will complete predesign in 2008.

2003 Milestones

All Planning Phase: Coordinate with the City of Seattle CSO Control Plan, County 2005 Update, HCP, sediment Management Plan and Green Water Quality Assessment projects on-going through 12/2002

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	Year to Date	Life to Date
1 Planning		1/1/2001	12/31/2007	Type of Project Cost	MAY-03	MAY-03
2 Predesign		1/1/2006	12/31/2007	OTHER COSTS	\$715	\$2,932
3 Final Design		1/1/2007	12/31/2007	PERMITS & ROW	\$1,500	\$1,500
4 Implementation				STAFF LABOR COSTS	\$40,047	\$159,939
5 Closeout				STAFF LABOR LTD Hours 3,285		
6 Land Aquisition				Total Project Cost:	\$42,263	\$164,371

Current Contract Information**Contract Number and Title****Total Paid by Project** **Contract Amt**

Project No. and Title

423368 Sediment Management Plan

Council District: 4,5,8,10**Project Manager:** Stern, Jeff**2003 Cash Flow:** \$1,425,838**Phase:** Planning**Appropriation:****Percent Spent:** 15%A20650 Combined Sewer Overflow
Control - Remediation**Project Scope**

This project addresses sediment contamination cleanups required under federal CERCLA and state MTCA regulations. The overall objectives of the SMP are to repair potential environmental damage in a timely, efficient and economical process, to prevent harm to public health, and to limit future liability. This project will implement the County's participation in the Lower Duwamish Waterway site MOA and Administrative Order on Consent and clean up the other contaminated sites under MTCA voluntary cleanup authority. This project is part of the Council-approved Regional Wastewater Services Plan.

2003 Milestones

Tier 2

Nearfield model: phase 2 complete 8/03; agency approval 12/03

Lower Duwamish Waterway: negotiate phase 2 Scope of Work 3/03; start early action cleanup studies 6/03; Fill data gaps 10/03

Tier 3

Complete planning for Denny A&B, Hanford and Lander sites mid 2003

Complete 30% design reports for Denny A &B, Hanford and Lander sites in late 2003

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	Year to Date	Life to Date
1 Planning		12/19/2000	12/31/2007	Type of Project Cost	MAY-03	MAY-03
2 Predesign		6/1/2002	12/31/2007	CONSTRUCTION	\$0	\$5,412
3 Final Design		1/1/2003	12/31/2006	ENGINEERING CONTRACTS	(\$132,379)	\$1,087,351
4 Implementation		3/1/2004	1/31/2007	OTHER COSTS	\$205,841	\$445,403
5 Closeout		1/1/2005	12/31/2006	STAFF LABOR COSTS	\$137,687	\$859,443
6 Land Aquisition				STAFF LABOR LTD Hours 15,306		
				Total Project Cost:	\$211,149	\$2,397,608

Current Contract Information**Contract Number and Title**

	Total Paid by Project	Contract Amt
33090009 LAKE WASH STUDIES RESEARCH AGREEMENT	\$1,395,468	\$1,549,735
D27460D LAKE WASHINGTON ECOSYSTEM RESTORATION AND FLOOD DAMAGE	\$103,000	\$103,000
E83034E YEAR 2000 CSO PLAN UPDATE	\$661,630	\$963,351
MOA/TEACH ASSISTANCE FOR LOWER DUWAMISH WATERWAY REMEDIAL	\$5,000	\$5,000
MOA/TECH ASSIST./LOWER DUWAMISH WATERWAY REMEDIAL		\$5,000
P03014P/DISCHARGE MODELING FOR CONTAMINATED SEDIMENT CLEANUP	\$63,383	\$63,828

Project No. and Title

423528 Water Reuse Satellite Facility

Council District: 03**Project Manager:** Hsu, Terry**2003 Cash Flow:** \$10,529,469**Phase:** Predesign 30%**Appropriation:****Percent Spent:** 21%

A20920 Water Reuse - New Facilities

Project Scope

The Sammamish Valley Reclaimed Water Production Facility will produce reclaimed water for irrigation in the Sammamish Valley. The facility will draw untreated wastewater from the North Sammamish interceptor, treat it to Class A standards, and deliver it to uses through a new water distribution system. The facility will be sized to meet irrigation demands in the valley and is initially intended to operate only during the irrigation season. Initial production capacity is anticipated to be 1 to 3 mgd. The capacity of the facility will be determined in predesign based on negotiations with potential users and may be constructed in phases. Solids will be returned to the sewer for processing at one of the regional treatment plants. Design of the facility will respond to the ultimate siting of the Brightwater Treatment Plant. An evaluation will be conducted to determine if the Brightwater facility can more cost-effectively serve the Sammamish Valley. If so, the Sammamish Valley Reclaimed Water Production Facility will be designed and constructed so that the equipment can be relocated after the water demands are met by the Brightwater Facility (after 2010). The reclaimed water will substitute for Sammamish River water and adjacent groundwater currently used for irrigation. This will increase the flow of water in the Sammamish River by reducing withdrawals. Increased flow is expected to have a beneficial impact on Salmon in the River. This project is part of the Council-approved Regional Wastewater Services Plan.

2003 Milestones

9/03 Design Complete

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	<u>Year to Date</u>	<u>Life to Date</u>
1 Planning		1/1/2002	3/31/2002	Type of Project Cost	MAY-03	MAY-03
2 Predesign		4/1/2002	11/28/2002	CONSTRUCTION	\$0	\$49,625
3 Final Design		9/1/2002	8/1/2003	ENGINEERING CONTRACTS	\$1,959,774	\$3,440,479
4 Implementation		8/3/2003	6/1/2004	OTHER COSTS	\$35,125	\$122,814
5 Closeout		6/1/2004	12/31/2005	PERMITS & ROW	\$17,758	\$33,905
6 Land Aquisition		9/30/2002	3/31/2003	STAFF LABOR COSTS	\$150,062	\$393,875
				STAFF LABOR LTD Hours 5,612		
				Total Project Cost:	\$2,162,719	\$4,040,697

Current Contract Information**Contract Number and Title**

	<u>Total Paid</u>	<u>Contract Amt</u>
	<u>by Project</u>	

C03067C/EAST DIVISION MECHANICAL CONSTRUCTION 2000-2001

\$378,830

\$400,000

E03016E/ON-CALL ENGINEERING SUPPORT FOR THE WASTEWATER TREATMENT

\$311,323

\$500,000

E13030E/ENGRG SVCS FOR SAMMAMISH VALLEY RECLAIMED WATER PRODUCTION

\$3,393,715

\$5,014,814

P83003P AGREEMENT FOR PROFESSIONAL CONSULTANT SERVICES

\$20,300

\$100,000

Project No. and Title

423523 RWSP Water/Wastewater Conservation Program

Council District: All**Project Manager:** Sullivan, Jo**2003 Cash Flow:** \$375,737**Phase:** Planning**Appropriation:****Percent Spent:** 47%

A20920 Water Reuse - New Facilities

Project Scope

Under the Regional Wastewater Services Plan (RWSP), the King County Council implemented a water conservation program in 2001 to provide a holistic approach in water resource management and to reduce impacts to the wastewater system. \$300,000 per year was earmarked to fund the program for five years, beginning in 2001. The current components of the program include a partnership with the King County Housing Authority to maximize water conservation in low-income residences by retrofitting their laundry facilities with water conserving washing machines and retrofitting approximately 400 multi-family units with low-flow toilets. A second partnership has been established with the King County Department of Health and Human Services Housing Rehabilitation Program to retrofit approximately 60 of their qualified homes undergoing rehabilitation with low-flow toilets. This will save water and establish an interagency cooperative agreement. Program staff are also participating in the Water Conservation Coalition of Puget Sound in order to bring King County into the regional water conservation community and network with water districts that are interested in partnerships.

2003 Milestones

Phase	<u>Schedule</u>	Start	Finish	<u>Project Cost</u>	Year to Date	Life to Date
				Type of Project Cost	MAY-03	MAY-03
1 Planning		1/1/2001	12-31-2005	ENGINEERING CONTRACTS	\$0	\$15,000
2 Predesign				OTHER COSTS	\$209,553	\$485,563
3 Final Design				PERMITS & ROW	\$30	\$30
4 Implementation				STAFF LABOR COSTS	(\$33,846)	(\$33,207)
5 Closeout				STAFF LABOR LTD Hours 23		
6 Land Aquisition				Total Project Cost:	\$175,737	\$467,386

Current Contract Information**Contract Number and Title****Total Paid
by Project****Contract Amt**